

## MULTIPHASE CT IN THE EVALUATION OF SYMPTOMATIC LIVER DISEASE IN PATIENTS WITH HHT

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**Objective:** To report the CT findings in patients with SYMPTOMATIC liver disease due to HHT. To determine if multiphase CT findings are predictive of the type of the liver disease.

**Materials and Methods:** Over a 9 year period (1994-2003) from an HHT Center following 2002 patients, 39 patients with symptomatic liver disease due to HHT were evaluated. Of these, 23 patients underwent CT multiphase scanning at our hospital and comprised the study group. Patients' symptoms were classified into Garcia I (high output heart failure), Garcia II (cirrhotic with portal hypertension) and Garcia III (biliary type). CT findings were correlated with the Garcia classification.

**Results:** Of the 23 patients, 16 (70%) had Garcia I symptoms, 6 (26%) had Garcia II symptoms, while 1 had a biliary presentation (Garcia III). Intrahepatic shunts were demonstrated in 18/23 (78%). The proper hepatic artery (PHA) diameter measured 5-16mm (mean 9.9mm, median 10mm). 16/23 (70%) had a hepatic artery diameter equal to or greater than 10mm and all of these patients demonstrated intrahepatic shunting on CT.

Of the 16 type I patients, 13 (81%) demonstrated intrahepatic shunting, 8 (50%) had nodular liver contour and 6/16 (38%) had biliary dilatation and/or cysts. Of the 6 patients with Garcia type II profile, all demonstrated nodular livers with additional signs of portal hypertension such as splenomegaly or collaterals or both. Two patients had ascites and 2 had biliary dilatation/cysts.

**Conclusions:** 70% of patients, severely symptomatic from HHT of the liver, have striking proper hepatic artery enlargement (>10mm). There is significant overlap of CT findings between the three defined symptomatic categories and prediction of clinical category is difficult by CT alone.